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DOI: https://doi.org/10.1093/ejcts/ezs235

European Journal of Cardio-Thoracic Surgery 42 (2012) 980
doi:10.1093/ejcts/ezs235 Advance Access publication 14 June 2012

EDITORIAL COMMENT

Minimal invasive surgery in congenital heart defects: keeping sight of our priority

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Keywords: Minimally-invasive cardiac surgery • Thoracoscopy • Ventricular septal defect • Infant • Child

There is no doubt that a minimally-invasive approach—an endoscopic one in this month's issue of the journal [1]—to repair a cardiac defect can lead to a quicker and more comfortable recovery. Although a hair-splitting statistical mind might contest the value of the comparison in Ma *et al.*'s article, by brandishing the nonrandomized nature of the design, it remains that their superior results are in line with many other groups on the matter [1, 2]. If the compared recovery periods can be influenced by non-blinded investigators, it is difficult to believe that the amount of blood transfused—a more objective parameter also significantly reduced in the endoscopic group—would be subject to the same flaw.

The surgical insult inflicted on an organism during an operation takes its toll in terms of body strain and, consequently, speed of recovery. Besides cardiopulmonary bypass (CPB), the cutting, burning, fracturing and stretching of tissues induce an additional repair process, mediated by inflammatory responses and cell regeneration, which consumes energy and reserves. Burns units scale the severity of the overall insult simply by measuring the surface and depth of the burn and obtain a direct and reliable indicator of prognosis and time of recovery [3]. The insult of our surgical incisions is more difficult to calculate because it is not spread across a measurable surface but distributed in depth through many different tissue layers. The burden on some of them is substantial: a single sternotomy might reach the equivalence of a long bone fracture.

But we are merely talking of the envelope of the body here. It is certainly noteworthy, especially in reference to its cosmetic aspect—but far away from our primary concern, which is the accurate repair of the heart defect. Ma and co-workers report an excellent outcome in 36 patients, in whom a restrictive ventricular septal defect (VSD) was closed endoscopically, and find mainly a discharge- and comfort advantage over the conventional treatment: an advantage, however, that is temporary and fades entirely over time [1]. One single serious event, such as neurological damage, could suffice to abruptly offset the benefits accumulated over the whole series and definitively invalidate their conclusions.

The achievement presented here is appealing but, before embarking on this new approach, one should not forget the strict preparation and careful dynamic of this group. They started with the closure of simple atrial septal defects (ASD), then extended their experience to the closure of restrictive VSD in older children and, today, to their closure in young children, those around three years of age [1, 4, 5]. This experience, both in the management of peripheral CPB (the venous drainage and arterial flows of which, by the way, look borderline to us) and in the endoscopic handling of cardiac tissues, amounts to a lot of patients before they began to tackle the latest, challenging group presented in their paper [1].

We cannot recommend this very progressive and cautious approach highly enough in a field where patients can be cured conventionally, with no somatic sequel at all, and have so many years to live. Like many others, we are convinced but are prudent proponents of a minimally invasive—and often cosmetic—approach to correct some congenital heart defects [6]. Even more than their quick recovery, the avoidance of the incision cataloging these children as 'cardiac sufferers' can have a major psychological impact on their future happiness and self-fulfilment in our societies resolutely turned towards the perfection of appearance. However, in considering such a program—or during its institution—one should never lose sight of our cardinal priority: the cosmetic must be achieved primarily on the heart, not on the skin.

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